

REMARKS

This application has been carefully reviewed in view of the above Office Action. Applicant appreciates the withdrawal of the restriction/election requirements and further appreciates the indication of allowability of claims 10-16 and 32.

It is noted that a minor amendment has been made to claim 29, without effect to the claim scope, in order to provide correct antecedent basis.

Regarding the Rejections Under 35 U.S.C. §102

Claims 1-6 and 29-31 were rejected as anticipated by the Liu et al. reference of record (Liu). Applicant respectfully traverses the rejection for at least the following reasons:

The Office Action asserts that Liu discloses an MPEG transcoder having drift compensation (section 3, ¶2). However, Liu is totally silent on any teaching of drift reduction or compensation. It is noted that independent claims 1 and 29 both call for computing a drift reduction block and carrying out drift compensation (last line and preamble). The term "drift" does not even appear in the Liu reference. Accordingly, while certain limited aspects of Applicant's claims may seem to be present in Liu, Liu is at best non-enabling as to Applicant's use of such aspects to accomplish drift reduction, or a sub-process associated therewith.

The Office Action submits that Fig. 6 of Liu, element 618; and col. 8, lines 1-15 and 51-59 teach Applicant's claimed coefficient dropping claim features. Applicant respectfully disagrees and submits that Liu's teachings are taken out of context in formulating the rejection. Liu only teaches "coefficient dropping" when his process enters "panic mode". Panic mode is defined and the coefficient dropping is described in detail in col. 7, lines 8-51. Briefly, each channel is assigned a budget of processing cycles, and if a channel exceeds a predetermined multiple of its budget, the system enters "panic mode". In panic mode, higher frequency DTC coefficients are dropped in order to avoid buffer overflow. There is no teaching in Liu of coefficient dropping for or in the context of drift compensation or reduction.

As noted previously, the coefficient dropping used by Liu on the transmitting side is only invoked during panic mode (note Fig. 6 and the relationship of element 618 to element 616). As explained on pages 1 and 2 of Applicant's specification, coefficient dropping, as described by Liu, is commonly used to reduce bit rate. However, as further explained on page 2 of Applicant's specification, coefficient dropping (such as described by Liu) is in fact the cause of the phenomenon known as drift. Thus, although the embodiments of Applicant's invention claimed do indeed contain an element that uses coefficient dropping, it does so as a part of a process that corrects the drift induced by the coefficient dropping carried out in Liu. Accordingly, Liu is clearly not in possession of Applicant's claimed invention, and further, one studying Liu would in fact learn to create rather than reduce or compensate drift.

Using claim 1 as an example, the rejected claims further call for *"forming a dropped coefficient block containing the at least one coefficient; inverse quantizing the at least one coefficient to produce an inverse quantized dropped coefficient block; and inverse discrete cosine transforming the inverse quantized dropped coefficient block to produce the drift reduction block"* or similar language. Each of these claim elements involve manipulation of the coefficients that were dropped in the first claim element. Liu has no teaching or suggestion whatsoever of carrying out any function on the dropped coefficients. Moreover, the dropped coefficients are clearly dropped in order to reduce the frame buffer (or processing cycle) deficit - i.e., to fight it's way out of panic mode by throwing away higher frequency data - suggesting that there is in fact no further processing of them. Thus, Liu fails to meet any of the further requirements of the claims in question by virtue of not processing the dropped coefficients in any way, contrary to the claim features.

In view of the above, it is believed clear that claims 1-6 and 29-31 are neither taught, suggested nor enabled by Liu as required to establish anticipation. Thus, in view of the above arguments, reconsideration and allowance of claims 1-6 and 29-31 are respectfully requested.

Regarding the Rejections Under 35 U.S.C. §103

Claims 7-9 were rejected as obvious in over Liu in view of Le Clerc et al of record (Le Clerc). While these claims exhibit substantial further distinguishing features in and of themselves, these claims depend from claim 4, and are believed to clearly distinguish over Liu for the reasons stated above. Moreover, given that Liu does nothing to reduce drift, and in fact no doubt creates drift, Liu can be viewed as teaching away from Applicant's claimed invention. It is further noted that (1) the Le Clerc reference fails to disclose anything about drift compensation, (2) it is not clear that drift occurs in Le Clerc's system and (3) Le Clerc also fails to even use the word "drift". Accordingly, there can be no *prima facie* case of obviousness. Reconsideration and allowance are respectfully requested.

Claims 17-18, 20-24 and 26-28 were rejected as obvious over Morel of record in view of Le Clerc. Again, Morel does not carry out any process that can be reasonably termed drift reduction or drift compensation, and there is no suggestion that Morel's system even has drift that requires compensation (The Morel reference is also devoid of use of the word "drift"). Moreover, Fig. 2 of Morel is barely mentioned by Morel, and little to no explanation of the functions are provided. Accordingly, the arguments presented below are based upon educated assumptions and conventional nomenclature regarding the actual meaning of Morel's Fig. 2 in the absence of any significant discussion by Morel. If the Examiner believes that the discussion below contains technical errors, Applicant respectfully requests that the Examiner provide additional support as to the teachings in Morel and restart the period for response. Now let us consider the rejection itself as explained in section 6 of the Office Action:

The Office Action asserts that Fig. 2 of Morel discloses dropping pixels from a reference frame in element DS. The undersigned interprets DS to be the downsampling filter discussed briefly in Morel in the abstract and in several other locations. Such filter is described as being inserted between the decoding and re-encoding portions of the transcoder. The downsampling filter in this context is believed to reduce the resolution of the image by sampling at a lower sampling rate. While downsampling may have the effect

of having a different set of pixels in the sampled image, it is not believed accurate to read the claim requirement of "dropping pixels" on downsampling. The plain meaning of "dropping pixels" means just that, removing certain pixels.

The Office action further asserts that Q inverse and IDCT meet the claim requirement for decoding the dropped pixels. However, it appears that this cannot possibly be so, since Q inverse and IDCT are ahead of the DS block that is alleged to drop pixels. There is no feedback path disclosed that sends dropped pixels back to these elements for decoding, thus, even if DS drops pixels, the dropped pixels are not in fact decoded by Q inverse and IDCT. In the event the Examiner reads the claim on this structure so broadly as to interpret the actions of Q inverse and IDCT as taking place on the pixels prior to the actual act of dropping the pixels, it is submitted that this is clearly beyond the realm of a reasonable claim interpretation. Pixels are inherently not "dropped pixels" until after they are dropped. Additionally, there is no disclosure that the output of Q inverse and IDCT produce a "drift reference frame" as required by the claims.

However, in order to obviate any possibility of the interpretation described above, Independent claims 17 and 23 have been amended to make explicit that which was clearly inherent by calling for the decoding to take place after the pixel dropping. This is fully consistent with the clear intent that a pixel is not a "dropped pixel" until after the pixel is actually dropped. This amendment clearly involves no change in claim scope.

The Office Action further asserts that element MC meets the claim requirement for a drift compensator. The undersigned submits that this is incorrect. Element MC is presumed to be a conventional Motion Compensation block in the absence of any other teaching. MPEG signals have temporal redundancy due to the high degree of correlation between adjacent pictures. This redundancy is exploited in MPEG by computing an interframe difference signal referred to as "prediction error". Motion compensation is used to correct prediction error in MPEG and similar algorithms. Motion compensation cannot be equated to drift compensation. Drift is caused when higher frequency components of the DCT are dropped to effect bit rate reduction. Thus, a drift compensator or drift compensation, as claimed, cannot possibly be accurately read upon a motion compensation block.

The Office Action correctly states that Morel does not disclose mapping a block of video from the current frame to a block in the drift reference frame, but incorrectly asserts that this missing element is taught by Le Clerc. It is respectfully submitted that neither of the cited references contain any teaching whatsoever of a drift reference frame. The teaching in Le Clerc is for mapping motion compensation blocks with associated motion vectors. This is irrelevant to the issue of drift compensation, as explained above.

In view of these inadequacies of the cited references and their inability to fully and reasonably meet any of the claim elements, reconsideration and allowance of claims 17-18, 22-24 and 26-28 are respectfully requested.

Claims 19 and 25 were rejected as obvious in over Morel and Le Clerc and further in view of Liu. Applicant reiterates the above remarks with regard to the deficiencies of each of the references. In view of these deficiencies, claims 19 and 25 are believed clearly allowable. Reconsideration and allowance are respectfully requested.

The undersigned notes that many additional distinctions exist between the cited references and the claims. However, in view of the above discussion, further elaboration on such differences is believed unnecessary. Thus, any failure to address a specific technical point raised in the Office Action should accordingly not be viewed as accession to any of the Examiner's positions with regard to the relevance of these references to any of the claims of the present application.

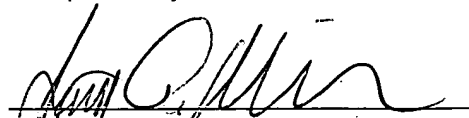
No amendment made was for the purpose of narrowing the scope of any claim as explained above. Nor was any amendment made for purposes relating to the statutory requirements of patentability. In view of this communication, all claims are now believed to be in condition for allowance and such is respectfully requested at an early date.

Interview Request

The undersigned respectfully requests the courtesy of an interview if any issues remain to be resolved after consideration of this response and prior to issuance of another

action. The undersigned can be contacted during normal business hours at the telephone number listed below.

Respectfully submitted,



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